4-1-2005

# Motivation for Active Aging: Results of a Pilot Study

Francis G. Caro
*University of Massachusetts Boston*, frank.caro@umb.edu

Laney Bruner-Canhoto
*University of Massachusetts Boston*

Jeffery Burr
*University of Massachusetts Boston*, jeffrey.burr@umb.edu

Jan Mutchler
*University of Massachusetts Boston*, jan.mutchler@umb.edu

# Motivation for Active Aging: Results of a Pilot Study

Francis G. Caro
Laney Bruner-Canhoto
Jeffrey Burr
Jan Mutchler

April 2005

Gerontology Institute
University of Massachusetts Boston
Boston, MA 02125

**Introduction.**

In the successful aging and productive aging literatures, activity among older people is valued highly. In the successful aging paradigm, activity is positively linked to health and psychological well being. The productive aging perspective focused on older people as contributors to society. Older people make contributions to society when they are gainfully employed, engage in community service volunteering, or provide informal assistance within their families.

Much of the research on activities among older people has focused on specific forms of activity such as paid employment, formal volunteering, participation in educational programs, physical exercise, and informal long-term care. The literature on employment among older people, for example, is relatively well developed with attention to such topics as the extent to which older people work, employment motivation among older people, employment opportunities for older people, age discrimination in hiring, patterns of full-time and part-time employment, access to employment training, bridge jobs for those approaching retirement, and reemployment after retirement (Crown, 1996).

Similarly, the literature on volunteering among older people is well developed with attention to such topics as the extent of volunteering among older people, motivation for volunteering, volunteer opportunities, and implications of volunteering for health (Fischer & Schaffer, 1993).

The long-term care literature has documented the enormous contributions of spouses and adult children as unpaid caregivers of older people with long-term care needs (Stone, 2000; Morris, Caro, & Hansan, 1998). The premise in the long-term care literature is that informal caregiving is triggered by need in a family member. Response to the needs of a family member is an obligation. The literature has emphasized the extent to which family members participate even when it has adverse affects for their own physical and mental health.

Less attention has been given to the relationships among various forms of productive activity (Caro and Bass, 1995; Morrow-Howell, Hinterlong, & Sherraden, 2001; Mutchler, Burr, & Caro,

2003). Various forms of activity may be complementary or competitive. In other words, participation in one form of productive activity may open doors to other forms of productive activity. On the other hand, participation in one form of activity may tend to crowd out participation in other activities. From the healthy aging perspective, questions can be asked about the implications of type of activity for well being. Does one form of activity readily substitute for another? In other words, do all kinds of productive activity contribute equally to well being? Does variety in activity matter? In other words, do elders maximize their well being when they engage in a variety of forms of activity?

Some work has been done on the number of forms of activity in which older people are engaged. In the Commonwealth Fund Productive Aging Study, a national survey that considered employment, volunteering, informal long-term care, and help to children and grandchildren, Caro and Bass (1995), for example, documented the fact that many elders were involved in multiple forms of these activities. The data set allowed them to examine the implications of demographic characteristics for number of productive activities. On the other hand the data set did not enable them to examine the implications of number of activities for well being.

Research exploring the interrelationship among various forms of activity has found only weak bivariate relationships among work, volunteering, informal long-term care, and help to grandchildren. Nevertheless, some researchers have found evidence of subtle interconnections. Mutchler, Burr, & Caro, 2003, for example, have examined the extent to which employment among older people may influence volunteering. A number of studies have shown that retirement does not have a positive effect on the likelihood of volunteering among older people; however, among older people who volunteer, their effort as volunteers tends to increase in the period immediately after retirement. Mutchler et al hypothesize that volunteer opportunities are sometimes associated with employment. When the tie to an employer is severed, the connection to a certain set of volunteer opportunities tends also to be severed. For some, retirement means more time that could be devoted to volunteer activity but a disconnection from some of the venues through which volunteer work can be done. Burr et al have examined the relationship between informal caregiving and volunteering.

The current research explores the question whether activity on the part of older people can be explained, in part, by a general motivation to be active that cuts across various forms of activity. One premise is that motivation defined as "personal interest or desire" is one of a number of forces that contributes to participation in an activity. A further premise is that a distinction may be made between motivation that is specific to a particular activity and general motivation to be active. A general motive to be active may help to explain specific forms of activity. Further, a general motive to be active may also help to explain the number of forms of activity in which people engage.

This project sidesteps the question whether it is useful to distinguish between general motivation to be active and motivation for *productive* activity. Gerontologists classify certain forms of activity because they are judged to be socially valuable. Paid employment and formal volunteering are widely recognized as *productive* activities. In the case of employment, monetary payment for work is the recognition of valued effort. In the case of formal volunteering, some form of nonmonetary recognition is provided to demonstrate that the effort is appreciated. In other cases, the classification of an activity as productive is more complex because public recognition of value is less obvious. The research simply focuses on the extent to which older people desire to be active whether they or others classify the activity to be productive in ways in which economists or sociologists might classify the activity.

The aim of the pilot was to explore the feasibility of developing a general measure of motivation to be active that could be used in survey research with elders.

**Methods**.

An item pool for a measure of **motivation for activity** was developed based upon a literature search and several focus group interviews with older people identified through their involvement with the Gerontology Institute at the University of Massachusetts Boston as volunteers or participation in educational programs.

Item pools were also developed for measures of motivation to volunteer, work, and provide help in the family. These item pools were also based upon both the published literature and the

focus groups. Particularly well developed is the literature on motivation to volunteer. We drew particularly upon the literature review by Fischer and Schaffer (1993). Some of the content for motivation to work came from the Commonwealth Fund's Productive Aging Survey (Bass, 1995). For the measure of motivation to help in the family, we drew almost exclusively from the focus group sessions.

The questionnaire included the four motivation item pools, questions about current activities, and standard demographic items. The questionnaire also included a section in which respondents were asked to judge the extent to which they expected to experience certain rewards from a set of activities. That section of the questionnaire will be described further below. The questionnaire was designed to be self-administered.

The questionnaire was administered to an opportunity sample of community-residing elders in eastern Massachusetts in 2003. Some of the questionnaires were administered in classes for elders at UMass Boston. Some were administered to volunteers active in the University of Massachusetts Gerontology Institute. Other questionnaires were completed by elders attending senior centers in the area. A total of 183 questionnaires were completed by individuals 55 years of age.

**Findings**

Respondent characteristics are summarized in Table 1. The average age of respondents was 73 with a range of 55 to 92. Approximately three quarters were women and approximately half were married. The sample is relatively well educated with 70% reporting some education beyond high school. Respondents were overwhelming white (95%) reflecting the racial characteristics of elders in Massachusetts. Almost half of the respondents reported that they were in excellent or very good health. One quarter were employed. Seventy percent were involved with formal volunteering. (The percent who are volunteering is substantially higher than is the case for elders generally.) One in six was actively involved in informal long-term care. Nearly half provided some child care within the year prior to the survey. In sum, well educated elders who are active volunteers were over represented in this sample.

Table 1. Respondent Characteristics (n=183)

| | |
|---|---|
| Age | 72.9 (mean)<br>(8.5) (standard deviation) |
| Female | 73.1% |
| Married | 47.7% |
| Education beyond high school | 70.2% |
| White | 94.1% |
| Excellent or very good health | 46.5% |
| Employed | 24.8% |
| Formal volunteering | 71.6% |
| Providing informal LTC | 17.3% |
| Cared for child in past 12 months | 48.2% |

***Motivation for activity.*** The measure consisted of the following 13 items in a standard five point Likert scale format.

1. I enjoy being involved with people.
2. I like doing things that other people appreciate.
3. I like to keep busy.
4. I like to get out of the house regularly.
5. I like to do things that help others.
6. I enjoy making or saving money.
7. I like putting my skills to use.
8. I like having interesting new experiences.
9. I enjoy feeling useful.
10. I enjoy showing that I still have plenty of skills
11. I enjoy meeting new people.
12. I enjoy making new friends.
13. I enjoy being on the cutting edge.

Although responses tended to be heavily loaded to positive responses, all of the items yielded acceptable variation. Respondents varied a good deal between "strongly agree" and "agree" responses. The item attracting the greatest "strongly agree" response was "I enjoy feeling useful"

with 58% of respondents reporting "strongly agree." Typically, at least 5% of respondents used the undecided category. The item "I enjoy making or saving money" attracted the most ambivalent responses with 22% of respondents neither agreeing nor disagreeing.

For the 13 item scale, the scale reliability coefficient was 0.90. With removal of the item with the lowest test score correlation, the scale reliability coefficient was improved slightly to 0.91. According to the criteria suggested by DeVellis (1991), the scale is highly reliable for research purposes.

The items with the highest item-test correlation were:

"I enjoy feeling useful."

"I enjoy meeting new people."

"I enjoy making new friends."

The item with the weakest item-test correlation was:

"I enjoy making or saving money."

***Work motivation.*** We used 10 items to measure work motivation. Again, we used a 5-point Likert format:

1. Older people should work if they can
2. With all the things I do, it is hard to find time to work.
3. I feel better when I am working.
4. I don't like being tied to a clock.
5. At this stage in my life, I am willing to work only if I like the job.
6. After working all of my life, I need some time to call my own.
7. I like to work because I need something to do.
8. When you are older, you are supposed to stop working.
9. It is important for me to like what I do for work.
10. I would much rather relax around the house all day than go to work.

This item pool did not include items that measured either economic or social reasons for working. Response patterns were acceptable for each of the items. For half of the items (1,3,4,6, and 9) responses were heavily loaded in a positive direction. Nevertheless, in each case there was substantial use of the "strongly agree" "agree" and "undecided" categories. Inter-item correlations tended to be relatively low. Chronbach's alpha for the ten items was only .59. We concluded that we should employ a multidimensional approach to measuring work motivation. Consequently, we employed a principle component factor analysis for the 10 items that identified 3 factors. We labeled the factors "work1," "work2," and "work3." "Work1" was most heavily influenced by items 1, 3, and 7. "Work2" was most heavily influenced by items 4, 5, 6, and 9. "Work3" was most heavily influenced by items 2, 8, and 10. Unfortunately, we were not able to infer an underlying concept to enable us to attach meaningful names to the three work motivation factors.

***Volunteering motivation.*** Because of the extensive literature on volunteering, we were able to assemble a pool of 24 items to measure volunteer motivation. From that pool, we were able to identify a group of 8 items with a high alpha score (.85) suggesting unidimensionality. The items are listed below:

1. When I volunteer, I can do something for a cause that is important to me.
2. Volunteering can be a way to show appreciation for your life.
3. Volunteering is a? worthwhile way to spend free time.
4. I am especially willing to volunteer when I can use my skills, talent and experience.
5. Volunteering keeps me healthy.
6. I get a good feeling from volunteering.
7. Volunteering doesn't interest me.
8. Volunteering is a good way to get valuable experience.

***Motivation to help within the family.*** The item pool for motivation to help in the family was developed from our focus groups rather than from the extensive Family Sociology literature. (Mangen and Peterson [1982] describe a wide variety of measures of parent-child relationship and kinship relationship measures. Among these, measures of social norms are particularly pertinent; see, for example, Dunkle's measure of Children's Attitudes Toward Supporting Aging Parents, [Mangan & Peterson, 1982, pp. 137-139.] Our context differs from other previous studies because

of the breadth of our underlying interest in surveying older people's motivation to provide help within the family. From a 9 item pool, we developed a 7 item scale of motivation to help family. Notable is the fact that the items address willingness to be helpful to family members broadly without making explicit reference to either long-term care or child care. Because the alpha coefficient was high (.86), we concluded that our measure was unidimensional.

1. People should take care of family members if necessary.
2. Taking care of family is just the right thing to do.
3. I was brought up to believe you take care of family.
4. It feels good to be needed by family members.
5. If family takes care of you, you should take care of family.
6. I would be upset if family needed care and I did not do it.
7. We are the sort of family that provides care to each other.

***Associations among motivation scales*.** We examined the correlations among the motivation scores for general activity, 3 aspects of work motivation, volunteering and helping within the family. For the most part, we found positive correlations (Table 2). The strongest correlations were between general activity motivation and the first work motivation factor and volunteering motivation. In both cases the correlation coefficient was greater than .30. The association between general activity motivation and the other two work motivation factors is also significant The data also suggest a possible relationship between general activity motivation and motivation to help in the family (The relationship is significant at the .10 level.. The data also show positive associations between the first work motivation factor, volunteering motivation, and motivation to help in the family. From these correlations we conclude that the general activity motivation is measuring something different from that measured by the scales that focus on work, volunteering, and helping within the family.

Table 2. Inter-item correlations among motivation scales

| | Activity Motivation | Work Motivation Factor 1 | Work Motivation Factor 2 | Work Motivation Factor 3 | Volunteering Motivation | Commitment to Family |
|---|---|---|---|---|---|---|
| Activity Motivation | 1.00 | | | | | |
| Work Motivation Factor 1 | 0.36 **** | 1.00 | | | | |
| Work Motivation Factor 2 | 0.17 ** | 0.05 | 1.00 | | | |
| Work Motivation Factor 3 | -0.22 *** | -0.00 | 0.05 | 1.00 | | |
| Volunteering Motivation | 0.32 **** | 0.22 ** | 0.12 | -0.08 | 1.00 | |
| Commitment to Family | 0.14 * | 0.22 *** | 0.13 | 0.09 | 0.20 ** | 1.00 |

**** $p < .001$
*** $p < .01$
** $p < .05$
* $p < .10$

***Activities and Rewards.*** One of the approaches used in the study was an examination of the extent to which respondents thought that they could obtain rewards from six forms of activity: work, volunteering, taking care of a sick relative, baby sitting for grandchildren, taking classes, and exercising. Eight potential rewards were studied. The rewards were examined with the first eight items on the general activity motivation item scale:

1. Be involved with people
2. Do things that other people appreciate
3. Keep busy
4. Get out of the house regularly
5. Do things that help others
6. Make or save money
7. Put your skills to use
8. Have interesting new experiences

For a sample of the question format used for this section of the questionnaire, see the appendix.

Of some concern in the analysis of this portion of the data is that respondents often left portions unrated. Completion of the entire matrix required 48 responses. Roughly half of the respondents completed the entire matrix. Another 13% omitted only a single rating. Twenty percent omitted half or more of the matrix.

In analyzing the data, we calculated ratings for each reward-activity combination. In the first instance, we used the raw ratings on a "0," "1," "2" scale. The first item asked "To what extent can you be involved with people by…. The first option respondents were asked to consider was "working." If the respondent checked "some," the respondent was given a score of "1," The second option was "volunteering." If the respondent checked "A lot" for this condition, the respondent was given a score of "2." We calculated mean ratings for respondents who were 55 years of age and older. We used all the ratings provided. We made no adjustments for missing data.

The mean ratings are shown in Table 3. Examination of the column means shows that volunteering was the most highly rated activity. Working, taking classes, and exercising had intermediate ratings. Least attractive were the family activities, caring for sick relatives and babysitting for grandchildren. This analysis suggests that being involved with people is what makes activities most attractive to elders. It also suggests that among the possibilities listed, opportunities to make or save money are the least attractive features of activities. Volunteering was rated as highly rewarding on all dimensions except making or saving money. Taking classes was rated highly as means of being involved with people, keeping busy, and getting out of the house regularly. Exercise was similarly rated as a good way to be involved with people and get out of the house regularly. Caring for sick relatives and baby sitting for grandchildren were seen as obstacles to getting out of the house regularly, putting skills to use, making or saving money, or having interesting new experiences.

Table 3. Activities and Rewards

| Rewards | Work | Volunteer | Care for sick | Baby sit grandchildren | Take classes | Exercise | Mean |
|---|---|---|---|---|---|---|---|
| 1. Be involved with people | 1.22 | 1.46 | 1.01 | 1.09 | 1.35 | 1.35 | 1.25 |
| 2. Do things that other people appreciate | 1.15 | 1.51 | 1.11 | 1.15 | 1.07 | 1.10 | 1.18 |
| 3. Keep busy | 1.12 | 1.35 | 0.97 | 1.03 | 1.35 | 1.24 | 1.18 |
| 4. Get out of the house regularly | 1.16 | 1.34 | 0.82 | 0.89 | 1.27 | 1.39 | 1.15 |
| 5. Do things that help others | 1.03 | 1.47 | 1.09 | 1.13 | 1.00 | 1.01 | 1.12 |
| 6. Make money or save money | 1.10 | 0.32 | 0.23 | 0.23 | 0.34 | 0.32 | 0.42 |
| 7. Put your skills to use | 1.32 | 1.44 | 0.89 | 0.93 | 1.14 | 1.04 | 1.13 |
| 8. Have interesting new experiences | 1.14 | 1.44 | 0.70 | 0.95 | 1.46 | 1.17 | 1.14 |
| Mean | 1.16 | 1.29 | 0.85 | 0.93 | 1.12 | 1.08 | |

**Key:**

| |
|---|
| 0 – .99 = Low |
| 1.00 – 1.24 = Medium |
| 1.25 – 2.00 = High |

***Motivation and Activities.*** We explored the relationships between motivation and activities. We expected positive relationships. Because our data are cross-sectional, we do not know the extent to which motivation leads to activity or the extent to which attraction to an activity leads to persistence in an activity.

We looked first at the correlations among four activities: working, volunteering, caring for grandchildren, and informal long-term care (Table 4). The intercorrelations are weak; all of the

correlation coefficients are less than .11. None of the correlation coefficients is statistically significant. The difference between the intercorrelation matrices for motives and actual activities is noteworthy. In the case of motives reported in Table 2, we found extensive evidence of intercorrelations. In the case of actual behavior, none of the correlation coefficients was large enough to achieve statistical significance.

Table 4. Pair-wise correlations coefficients among activities

| | Volunteer | Working | Childcare | Informal long-term care |
|---|---|---|---|---|
| Volunteer | 1.00 | | | |
| Working | 0.10 | 1.00 | | |
| Childcare | 0.09 | 0.09 | 1.00 | |
| Informal Long-term care | 0.08 | -0.02 | -0.04 | 1.00 |

We next examined the associations among the motivation and activity items (Table 5). We included all of the motivation measures and all of the activity measures in the analysis. Working is associated with the first and third work motivation factors (r = .17 and r = -.31.) In both cases, the correlation coefficient is statistically significant. Similarly volunteering motivation is positively associated with volunteering (r =.22). Motivation to help in the family, however, was not associated with either caring for grandchildren or involvement in informal long-term care. The second work motivation scale may be weakly associated with both child care and informal long-term care. In the case of child care, the association with the second work motivation scale is negative. The data also suggest a possible relationship between the third work motivation factor and volunteering. Volunteering motivation may be associated with working (r =.15). The commitment to family scale was not associated with any of the activities.

At best there was evidence of weak relationships between general activity motivation and two of the four activities. In the cases of working and volunteering, the correlation coefficients between general activity motivation and each of the activities was r = .10 and r = .12 respectively; neither was statistically significant. The bivariate correlation between activity motivation and number of activities was positive but weak, (r =.14). The association is significant at the .10 level. More promising was the correlation between activity motivation and the number of forms of volunteer activity in which respondents were engaged; the correlation coefficient was r = .22 with is statistically significant at the p = .01 level.

Table 5. Intercorrelations among motivation and activity

| | Activity Motivation | Work Motivation Factor 1 | Work Motivation Factor 2 | Work Motivation Factor 3 | Volunteer Motivation | Commitment to Family |
|---|---|---|---|---|---|---|
| Volunteer | 0.12 | -0.06 | 0.11 | -0.13 | 0.22 *** | 0.03 |
| Working | 0.10 | 0.24 *** | 0.11 | -0.29 *** | 0.15 * | -0.09 |
| Childcare | 0.06 | -0.08 | -0.15 * | -0.16 * | 0.03 | -0.03 |
| Informal LTC | -0.00 | 0.02 | 0.14 * | 0.05 | 0.04 | 0.01 |

*** $p < .001$

** $p < .05$

* $p < .10$

We then used multiple regression analysis for a more stringent examination of the link between motivation and activity. We employed logistic regression for a series of analyses with employment, volunteering, informal long-term care, and child care as the dependent variables. In each of these regressions we included all of the motivation scales and several background variables: age, gender, married, education, and self-reported health.

The model predicting employment is relatively strong with a Pseudo $R^2$ equaling .38 (Table 6). Work motivation (factors 1 and 3) help to explain variance in working. The first is significant at the $p < .000$ level; the third is significant at the $p < .03$ level. Three other motivation scales are significant at the $p < .10$ level. The data suggest that volunteer motivation may also be positively

linked to working. On the other hand, general activity motivation and motivation to help in the family may be *inversely* associated with employment. In other words, those who appear to be most attached to family and most highly motivated to be active may be less likely to be employed. In addition, two background variables are significantly associated with employment: age and health.

Table 6. Logistic Regression Predicting Employment

` Number of obs = 124
LR $X^2$ (11) = 54.29
Prob > $X^2$ = 0.0000
Pseudo $R^2$ = 0.3833

| | Odds Ratio | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
|---|---|---|---|---|---|---|
| Age | .86 | 0.04 | -3.24 | 0.00 | 0.78 | 0.94 |
| Male | 2.15 | 1.67 | 1.00 | 0.32 | 0.47 | 9.84 |
| Married | 1.06 | 0.65 | 0.10 | 0.92 | 0.32 | 3.50 |
| Health | 2.23 | 0.85 | 2.10 | 0.04 | 1.06 | 4.72 |
| Education | 0.74 | 0.26 | -0.87 | 0.38 | 0.37 | 1.46 |
| Work Motivation 1 | 5.05 | 2.11 | 3.87 | 0.00 | 2.22 | 11.46 |
| Work Motivation 2 | 1.68 | 0.55 | 1.58 | 0.11 | 0.88 | 3.20 |
| Work Motivation 3 | 0.48 | 0.16 | -2.16 | 0.03 | 0.25 | 0.94 |
| Volunteer Motivation | 3.15 | 2.19 | 1.66 | 0.10 | 0.81 | 12.30 |
| Commitment to Family | 0.36 | 0.20 | -1.81 | 0.70 | 0.12 | 1.09 |
| Activity Motivation | 0.90 | 0.06 | -1.71 | 0.09 | 0.79 | 1.02 |

The regression was less successful in explaining volunteering but still had a pseudo $R^2$ of .14 (Table 7). Only Volunteer motivation showed a clear relationship to volunteering. However, general activity motivation may also help to explain volunteering; the relationship was significant at the 10% level. None of the background characteristics were linked to volunteering

Table 7. Logistic Regression Predicting Volunteering

Number of obs = 133
LR $X^2(11)$ = 20.45
Prob > $X^2$ = 0.0396
Pseudo $R^2$ = 0.1416

| | Odds Ratio | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
|---|---|---|---|---|---|---|
| Age | 0.98 | 0.03 | -0.68 | 0.50 | 0.92 | 1.04 |
| Male | 2.05 | 1.42 | 1.03 | 0.30 | 0.52 | 8.0 |
| Married | 0.68 | 0.33 | -0.78 | 0.44 | 0.26 | 1.78 |
| Health | 0.82 | 0.22 | -0.73 | 0.47 | 0.48 | 1.39 |
| Education | 0.80 | 0.20 | -0.88 | 0.38 | 0.50 | 1.30 |
| Work Motivation 1 | 0.67 | 0.19 | -1.43 | 0.15 | 0.38 | 1.16 |
| Work Motivation 2 | 1.06 | 0.26 | 0.23 | 0.82 | 0.66 | 1.70 |
| Work Motivation 3 | 0.89 | 0.23 | -0.43 | 0.67 | 0.54 | 1.49 |
| Volunteer Motivation | 4.60 | 2.43 | 2.89 | 0.00 | 1.63 | 13.00 |
| Commitment to Family | 0.82 | 0.44 | -0.37 | 0.71 | 0.29 | 2.33 |
| Activity Motivation | 1.08 | 0.05 | 1.71 | 0.09 | 0.99 | 1.18 |

The care-for-children model had relatively weak explanatory power in explaining whether or not respondents care for a child within the prior 12 months (Table 8). The model accounted for 9 percent of the variance. Two of the motivation scales may have been linked to helping with care for children: motivation to volunteer and the third work motivation factor. Both were significant at close to the p =.10 level. Neither activity motivation nor motivation to help within the family were associated with caring for children.

Table 8. Logistic Regression predicting Care for Children

| | | | | | Number of obs = | 131 |
|---|---|---|---|---|---|---|
| | | | | | LR $X^2(11)$ = | 16.54 |
| | | | | | Prob > $X^2$ = | 0.1223 |
| | | | | | Pseudo $R^2$ = | 0.0914 |
| | Odds Ratio | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
| Age | 1.00 | 0.03 | -0.03 | 0.97 | 0.95 | 1.06 |
| Male | 0.29 | 0.16 | -2.20 | 0.03 | 0.10 | 0.87 |
| Married | 2.50 | 1.06 | 2.17 | 0.03 | 1.09 | 5.74 |
| Health | 0.89 | 0.19 | -0.53 | 0.60 | 0.59 | 1.36 |
| Education | 0.94 | 0.19 | -0.33 | 0.74 | 0.63 | 1.38 |
| Work Motivation 1 | 0.92 | 0.21 | -0.38 | 0.70 | 0.58 | 1.44 |
| Work Motivation 2 | 0.78 | 0.17 | -1.18 | 0.24 | 0.51 | 1.18 |
| Work Motivation 3 | 0.70 | 0.16 | -1.61 | 0.11 | 0.45 | 1.08 |
| Volunteer Motivation | 2.02 | 0.84 | 1.69 | 0.09 | 0.90 | 4.54 |
| Commitment to Family | 1.36 | 0.57 | 0.74 | 0.46 | 0.60 | 3.07 |
| Activity Motivation | 0.99 | 0.04 | -0.47 | 0.64 | 0.91 | 1.06 |

We were relatively unsuccessful in explaining whether or not respondents were actively engaged in providing informal care to a relative or friend (Table 9). Although the adjusted $R^2 = .13$, none of the variables in the model was significant at the $p = .05$ level. The second work motivation scale was significant at the $p = .07$ level. None of the background variables was significantly linked to involvement in informal long-term care.

Table 9. Logistic Regression Predicting Informal Caregiving

| | | | | | Number of obs = 132<br>LR $X^2$ (11) = 16.42<br>Prob > $X^2$ = 0.1264<br>Pseudo $R^2$ = 0.128 | |
|---|---|---|---|---|---|---|
| | Odds Ratio | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
| Age | 0.95 | 0.03 | -1.30 | 0.19 | 0.89 | 1.02 |
| Male | 0.46 | 0.33 | -1.09 | 0.28 | 0.11 | 1.86 |
| Married | 1.02 | 0.54 | 0.05 | 1.00 | 0.36 | 2.90 |
| Health | 1.54 | 0.48 | 1.40 | 0.16 | 0.84 | 2.83 |
| Education | 1.37 | 0.38 | 1.15 | 0.25 | 0.80 | 2.35 |
| Work Motivation 1 | 1.56 | 0.48 | 1.43 | 0.15 | 0.85 | 2.88 |
| Work Motivation 2 | 1.70 | 0.50 | 1.79 | 0.07 | 0.95 | 3.05 |
| Work Motivation 3 | 1.30 | 0.35 | 0.97 | 0.33 | 0.77 | 2.21 |
| Volunteer Motivation | 1.40 | 0.79 | 0.58 | 0.56 | 0.46 | 4.24 |
| Commitment to Family | 2.11 | 1.10 | 1.43 | 0.15 | 0.76 | 5.87 |
| Activity Motivation | 0.94 | 0.50 | -1.17 | 0.24 | 0.85 | 1.04 |

Among four productive activities (working, volunteering, informal LTC, or helping grandchildren), respondents typically were active in one or two areas. Twenty percent were active in three or four areas. We ran an ordered logit model to determine whether there was a relationship between number of productive activities and the motivation measures (Table 10). The findings were consistent with the previous analysis. Both the first work motivation scale and volunteer motivation were positively associated with number of productive activities. An association between the third work motivation scale and number of productive activities was significant at the p = .08 level. General activity motivation was not associated with number of productive activities. Age was the only background variable that was linked to number of productive activities; younger respondents tended to be active in more productive activities.

Table 10. Ordered logistical regression Predicting Number of Productive Activities

| | | | | | Number of obs = | 122 |
|---|---|---|---|---|---|---|
| | | | | | LR $X^2(11)$ = | 37.00 |
| | | | | | Prob > $X^2$ = | 0.0001 |
| Log likelihood = -139.27 | | | | | Pseudo $R^2$ = | 0.1172 |
| | Coef. | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
| Age | -0.07 | 0.03 | -2.43 | 0.02 | -0.12 | -0.01 |
| Male | -0.52 | 0.50 | -1.05 | 0.30 | -1.50 | 0.46 |
| Married | 0.46 | 0.39 | 1.19 | 0.24 | -0.30 | 1.23 |
| Health | 0.29 | 0.20 | 1.43 | 0.15 | -0.10 | 0.68 |
| Education | -0.02 | 0.18 | -0.11 | 0.91 | -0.38 | 0.34 |
| Work Motivation 1 | 0.48 | 0.22 | 2.18 | 0.03 | 0.05 | 0.90 |
| Work Motivation 2 | 0.18 | 0.18 | 1.01 | 0.31 | -0.17 | 0.55 |
| Work Motivation 3 | -0.38 | 0.21 | -1.75 | 0.08 | -0.80 | 0.04 |
| Volunteer Motivation | 1.22 | 0.39 | 3.17 | 0.00 | 0.47 | 1.98 |
| Commitment to Family | -0.15 | 0.36 | -0.42 | 0.67 | -0.86 | 0.55 |
| Activity Motivation | -0.03 | 0.03 | -0.80 | 0.43 | -0.10 | 0.04 |

Finally, we examined predictors of number of forms of volunteering in which respondents were engaged. Respondents were asked five separate questions about forms of volunteering: religious, educational, political/labor union, aging service, and other. These questions provided us with a measure of diversity in volunteer activity; it may also have been a measure of extent of volunteer activity. An ordered logistical regression showed that volunteer motivation was clearly linked to number of forms of volunteering (Table 11). In addition, general activity motivation was significant at the p = .06 level.

Table 11. Ordered Logit Predicting Number of Forms of Volunteer Activity

| | | | | | Number of obs = 133<br>LR $X^2$ (11) = 20.09<br>Prob > $X^2$ = 0.0442<br>Pseudo $R^2$ = 0.0491 | |
|---|---|---|---|---|---|---|
| | Coef. | Std. Err. | z | P> z | 95% | Conf. Intrvl. |
| Age | 0.01 | 0.02 | 0.55 | 0.58 | -0.03 | 0.06 |
| Male | -0.16 | 0.48 | -0.33 | 0.74 | -1.10 | 0.78 |
| Married | 0.23 | 0.35 | 0.65 | 0.52 | -0.46 | 0.91 |
| Health | 0.03 | 0.18 | 0.18 | 0.86 | -0.33 | 0.40 |
| Education | -0.02 | 0.16 | -0.09 | 0.93 | -0.34 | 0.30 |
| Work Motivation 1 | -0.29 | 0.20 | -1.46 | 0.15 | -0.68 | 0.10 |
| Work Motivation 2 | 0.09 | 0.17 | 0.52 | 0.60 | -0.25 | 0.42 |
| Work Motivation 3 | 0.00 | 0.18 | 0.00 | 1.00 | -0.35 | 0.36 |
| Volunteer Motivation | 0.94 | 0.36 | 2.63 | 0.00 | 0.24 | 1.63 |
| Commitment to Family | 0.17 | 0.33 | 0.50 | 0.62 | -0.48 | 0.81 |
| Activity Motivation | 0.07 | 0.03 | 1.93 | 0.05 | -0.00 | 0.13 |

**Discussion**

***Technical issues.*** Experience with this pilot research suggests that a number of improvements might have been made in the item pool and in the question format. A limitation of the general activity motivation scale is that all of the items are positively worded. Some of the intercorrelations among motivation scale may have been an artifact of response stereotyping. In future administrations, the wording of some items should be reversed to encourage respondents to be more discriminating in responding.

The use of a standard Likert scale format resulted in a concentration of responses in three categories: “Strongly Agree,” “Agree,” and “Undecided.” In future administrations, we should explore use of a format that asks respondents “how important” various options are to them. Again

we would use a 5 point scale to discriminate between "not important" to "extremely important." The hope is that respondents would vary their responses more when asked to judge degree of importance.

An innovative aspect of the survey was the use of a matrix to measure respondents' perceptions of the rewards associated with various activities. With six activities and eight potential rewards, we asked respondents to make 48 ratings. The task proved to be excessively burdensome for many respondents. Only half made all 48 ratings and nearly two-thirds made all but one rating. The experience suggests that use of this kind of a matrix invites missing data problems. A smaller matrix might be more successful in eliciting full cooperation from respondents.

Use of a more comprehensive work motivation scale would have been helpful. Future studies should include questions to determine the extent to which work is attractive because of the potential to earn money and the opportunity to interact with coworkers.

We began the research hoping to measure motivation for productive activity separately from motivation for activity generally. We failed to generate items that reflected an academic definition of productive activity that is distinct from activity generally. We are less confident that it is meaningful to ask respondents to make that distinction.

The data analysis is useful largely for construct validity. The substantive findings should be interpreted both because the sample is not representative of elders in the United States and the sample is small. The sample is not large enough to yield statistically significance on subtle relationships within the data set.

**Conclusions**

- Measurement of activity motivation shows some promise. We were able to develop a measure with strong internal consistency that was distinct from measures of motivation for work, volunteering, and helping within the family.
- Our measure is best interpreted as a measure of motivation for activity. It may not be feasible to develop a measure of motivation for productive activity that reflects the distinctions that social scientists make in differentiating general activity from productive activity.

- Modifications in the question format may be effective in eliciting greater response variation.
- A better mix of positively and negatively worded items is needed to protect against response stereotyping.
- The data suggest that motivation is helpful in explaining both working and volunteering, but it is specific motivation rather than general motivation that appears to have greater influence. In other words, work motivation helps to explain working and volunteer motivation helps to explain volunteering. However, there appear to be some interesting "cross-over" effects such as volunteer motivation being associated with work motivation.
- Helping in the family appears to be driven by obligation and circumstance rather than motivation. In future studies, we may be well advised to concentrate on the link between motivation and activities that are more discretionary than obligatory.
- General motivation to be active may contribute to the overall scope of productive activity, but specific motivations appear to be more important. In this study, motivation to be active was most strongly linked to volunteering. General activity motivation may prove to be linked to highly discretionary activities.
- Construct validity of the measures needs to be examined through use of the measures on a more representative sample.

## References

Caro, F. & Bass, S. (1995). "Dimensions of productive engagement." in S.A. Bass (Ed.) *Active & Aging*. Baltimore: Johns Hopkins, pp 204-216.

Crown, W. (Ed.) (1996). *Handbook on Employment and the Elderly*. Westport, CT: Greenwood.

DeVellis, R. (1991). *Scale Development: Theory and Applications.* Newbury Park, CA: Sage Publications.

Fischer, L., & Schaffer, K. (1993). *Older volunteers: A guide to research and practice*. Newbury Park, CA: Sage Publications.

Mangen, D. & Peterson, W. (Eds.) (1982). *Research Instruments in Social Gerontology: Volume 2 Social Roles and Social Participation.* Minneapolis: University of Minnesota.

Morris, R., Caro, F., & Hansan, J. (1998). *Personal Assistance: The Future of Home Care.* Baltimore: Johns Hopkins.

Morrow-Howell, N.. Hinterlong, J. & Sherraden, M. (Eds.), *Productive Aging. Concepts and Challenges.* Baltimore: The Johns Hopkins University Press.

Mutchler, J., Burr, J., Caro, F. (2003). "From Paid Worker to Volunteer: Leaving the Paid Workforce and Volunteering in Later Life." *Social Forces*, 81, 1267-1293.

Stone, R. (2000). Long-Term Care for the Elderly with Disabilities: Current Policy, Emerging Trends, and Implications for the Twenty-First Century. NY: Milbank Memorial Fund. http://www.milbank.org/reports/0008stone/

**Appendix**

# Activities & Rewards: Sample Question Format

| 1. To what extent can you **be involved with people** by… | **Not at all** | **Some** | **A lot** |
|---|---|---|---|
| Working? | ☐ | ☐ | ☐ |
| Volunteering? | ☐ | ☐ | ☐ |
| Caring for a sick relative? | ☐ | ☐ | ☐ |
| Babysitting grandchildren? | ☐ | ☐ | ☐ |
| Taking classes? | ☐ | ☐ | ☐ |
| Exercising? | ☐ | ☐ | ☐ |

| 2. To what extent can you **do things that other people appreciate** by… | **Not at all** | **Some** | **A lot** |
|---|---|---|---|
| Working? | ☐ | ☐ | ☐ |
| Volunteering? | ☐ | ☐ | ☐ |
| Caring for a sick relative? | ☐ | ☐ | ☐ |
| Babysitting grandchildren? | ☐ | ☐ | ☐ |
| Taking classes? | ☐ | ☐ | ☐ |